

**A DESCRIPTION OF THE ADULT AND EARLY STAGES OF
PHYLLONORYCTER PLATANI (STAUDINGER, 1870)
(LEPIDOPTERA: GRACILLARIIDAE)**

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IN MY PREVIOUS paper (*antea*, p.1) I narrated the circumstances of the discovery of *Phyllonorycter platani* in Britain. The purpose of the present article is to give a full description of the imago and life history.

PHYLLONORYCTER PLATANI (Staudinger)

Lithocolletis platani Staudinger, 1870, *Trudy russk. ent. Obshch.* 7: 277, tab. 3, fig. 8.

Type locality: Italy; Lake Como.

Description of imago

Wingspan 8 - 10mm. Head with vertical tuft yellowish white mixed fuscous, frons shining white; antenna golden with obscure fuscous annulations. Thorax golden yellow with three lines, outer two white, median silver edged black. Forewing golden yellow; four costal strigulae, first silver edged black, very oblique and continued as a fine silver edging along costa to base of wing, second to fourth more vertical, white on costa but in disc silver, all inwardly edged black, third and fourth almost reaching termen; two dorsal strigulae, both silver edged black, first extending from wing base subdorsally to one-third, then obtusely angled and continued very obliquely to just beyond apex of first costal, second moderately oblique, extending almost to apex of second costal and occasionally merging with it to form a fascia; basal streak to one-third, silver edged black, broad and slightly sinuous; an apical black dot; fringe line strong, black, extending from fourth costal to tornus; cilia pale golden, tips slightly darkened at apex. Hindwing pale grey; cilia pale shining golden. Abdomen fuscous in male, whitish fuscous in female. In living specimens the apex of the forewing is flexed upwards as in *Leucoptera* Hübner.

The ground colour of the forewing, more yellow than in other British *Phyllonorycter*, and the shape of the first dorsal strigula readily distinguish *P. platani* from all other members of the genus.

Life history

Ovum. Laid on a leaf of plane, generally on the underside. The London plane is a form of *Platanus orientalis*, variously known as *Platanus x hispanica*, *P. x acerifolia* or *P. hybrida*.

Larva. Head pale yellowish brown, mouth-parts darker. Abdomen sordid white, gut dull green or reddish according to the colour of the food ingested (see below); legs concolorous with abdomen.

Mine. Generally underside but occasionally upperside, especially as a minority in leaves carrying several mines; twelve have been recorded in Britain and Staudinger found 54 in one leaf at the type locality (Stainton, 1869, p. 140). One of the largest of British *Phyllonorycter* mines, averaging 37.5 x 11.3mm, the largest measured having been 69 x 22mm; the mine becomes narrower as internal spinning causes the lower epidermis to contract. Underside mines are normally between veins but those on the upperside may straddle a vein like that of *P. corylifoliella* (Hübner). The upper epidermis becomes mottled by the feeding and later, when all the parenchyma has been consumed, turns uniform dirty white. The frass is at first dispersed but later stacked in a heap in the centre of the mine. Larvae of the autumn generation feed on well into November. There is virtually no "green island" and the larvae are able to thrive on mesophyll that has turned brown after leaf-fall.

The larva appears to be less vulnerable than its congeners to mine damage. Even when the lower epidermis is split right across the centre, the larva seals off one half of the mine with silk and continues to feed therein. A number of mines have a small hole in the lower epidermis that does not appear to have been caused by physical damage.

Platanus is very seldom used as a foodplant by lepidopterous larvae and probably the nutrient value of the leaves is low. This may account for the big mine and the large quantity of mesophyll eaten in proportion to the size of the moth.

Prior to pupation the larva spins a flimsy cocoon attached to the upper epidermis near one end of the mine. The spinning causes further contraction and the position of the cocoon is often betrayed by the presence of a small bulge.

Pupa. Pale brown; setae long; dorsal spines of abdominal segments evenly distributed but larger anteriorly; cremaster with two pairs of slender processes, the inner pair straight, the outer pair hooked, the hooks turned outwards; the form is closest to that of *P. sylvella* (Haworth) (now *acerifoliella* (Zeller)), as shown in MBGBI 2, fig. 105 (p), but in *P. platani* the shafts are straighter and the hooks larger. On emergence the pupa leaves the cocoon and wriggles towards the end of the mine before eclosion. June-July; November-late April or May.

Imago. Bivoltine, late April-May; August. It is possible that the November larvae arise from a third generation in the autumn. Because of the distribution of its foodplant the moth will always be restricted to a suburban habitat. There does not seem to be any obvious place for it in the British list. Leraut (1980) places it immediately after *P. messaniella* (Zeller) and Schnack (1985) next to *P. acerifoliella*, a position possibly prompted by the form of the cremaster. Leraut's arrangement seems better and I suggest that it is adopted and *P. platani* be given the Log Book number 321a.

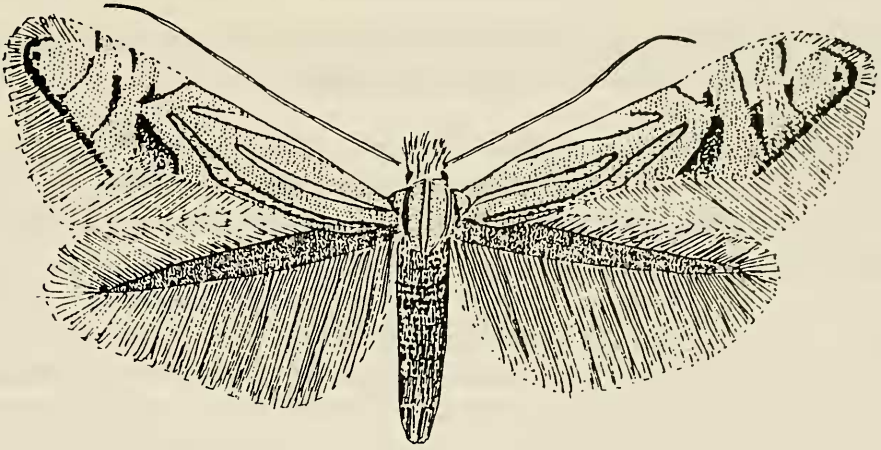


Fig. 1. *Phyllonorycter platani* (Staud.)



Fig. 2. Mines in *Platanus* sp.

Parasites. Two species, *Sympiesis sericeicornis* (Nees) and *S. gordius* (Walker) (Eulophidae) have so far been identified.

Distribution. At present known in Britain only from the West End of London and northern Surrey, where it is plentiful at Kew Gardens. Southern and Central Europe, but currently extending its range northwards and westwards.

Acknowledgements

I am indebted to Dr D. Nash for the drawing of the mine, to Dr M.R. Shaw for identifying the parasites, to Mr M.F.V. Corley for drawing the Stainton (1869) reference to my attention and to Canon D.J.L. Agassiz for certain statistics and the figure of the adult. He told me that he found the pale ground colour and the silvery hue of the strigulae difficult to represent clearly in a black and white drawing.

References

- Emmet, A.M., 1991. *Phyllonorycter platani* (Staudinger, 1870) (Lepidoptera: Gracillariidae) new to Britain. *Entomologist's Rec. J. Var.* **103**: 1.
Leraut, P., 1980. Liste systématique et synonymique des Lépidoptères de France, Belgique et Corse. *Alexanor*, suppl. **1980**, 334pp.
Schnack, K., 1985. Katalog over de danske Sommerfugle. *Ent. Meddr.* **52**, hefte 2-3.
Stainton, H.T., 1869. *The Tineina of Southern Europe*, 370pp. London.

A note on the life history of *Blastobasis decolorella* (Woll.) (Lep.: Blastobasidae)

In October 1990 I was searching for larvae of *Cydia aurana* Fab. in seedheads of *Heracleum sphondylium* at Bickley, Kent. Almost every seedhead contained larvae but, all being of a pinkish colour, they were clearly not those of *aurana*, which is white. Many of the larvae had made neat, round holes in the stem below the seed heads and were resting inside the stems.

As the identity was uncertain, I split the larvae into two batches: some stems and seed heads were placed in a linen bag and overwintered in a shady place in the garden. The remainder were put in a flower pot containing some earth and leaf litter, and left outside for the winter.

The linen bag was brought indoors at the end of April. On opening the bag I found the larvae had spun cocoons in the linen folds, but these contained only dead larvae — possibly killed by some severe spring frosts. The flower pot was left undisturbed and the first moth — a male *Blastobasis decolorella* — appeared on 6th June 1991, with others on subsequent days. — D. O'KEEFFE, 50 Hazelmere Road, Petts Wood, Kent.